WHAT I CLAIM IS:

1. A combination exhaust gas post treatment/muffler device in the exhaust gas section of an internal combustion engine, comprising:

a muffler that is spatially delimited by a front end wall, a rear end wall, and a peripheral outer wall, wherein said muffler is provided with an inlet tube for receiving exhaust gas that is to undergo post treatment;

at least one preliminary oxidation catalytic converter that is disposed in an interior of said muffler and significantly increases an amount of $NO_2$ in exhaust gas flowing through said muffler;

at least one particle separator disposed in said interior of said muffler, wherein after flowing through said at least one preliminary oxidation catalytic converter and said at least one particle separator, exhaust gas, in a clean and indirectly muffled state, is adapted to be conveyed out of said muffler;

wherein a free exhaust gas inlet surface of said at least one catalytic converter is considerably smaller than a free exhaust gas inlet surface of said at least one particle separator;

wherein an aspect ratio AR = l / $\varnothing_{eff}$ of said at least one preliminary oxidation catalytic converter is approximately between 0.4 and 0.6;

wherein an aspect ratio AR = l / $\varnothing_{eff}$ of said at least one particle separator 16 is approximately between 0.5 and 1.0;

wherein a volume of said at least one preliminary oxidation catalytic converter is between approximately 2.5 and 4 liters, wherein a volume of said at least one particle separator is between approximately 5.5 and 22 liters, and wherein a ratio of the volume of said at least one catalytic converter to the volume of said at least one particle separator is between approximately 0.15 and 0.55;

wherein a ratio of the aspect ratio of said at least one particle separator 16 to the aspect ratio of said at least one preliminary oxidation catalytic converter is between approximately 1.05 and 2.2; and

wherein at a maximum exhaust gas volume of flow ($Nm^3/h$) a channel velocity in said at least one preliminary oxidation catalytic converter is greater than 8 m / sec and in said at least one particle separator is greater than 5 m / sec, wherein the maximum exhaust gas volume flow is delimited by a maximum permissible pressure loss, and a maximum permissible exhaust gas counter

pressure with respect to a functionality of the internal combustion engine supplying exhaust gas.

2. A combination exhaust gas post treatment/muffler device according to claim 1, wherein the at least one preliminary oxidation catalytic converter has a circular cylindrical form with a dimension = diameter x length of 220 x 101.5mm or 200 x 101.5mm, in each case with a cellular structure of 160 or 200 cpsi, or 180 x 101.5 with a cellular structure of 160 cpsi, and also has a platinum coating in an order of magnitude of 5 g/1000 Nm3/h exhaust gas volume flow, in other words, approximately 1.0 to 1.5 g /liter of volume.

3. A combination exhaust gas post treatment/muffler device according to claim 1, wherein four identical particle separators, each having a circular cylindrical form, are disposed in said muffler for parallel flow therethrough, wherein each particle separator has a dimension = diameter x length of either 150 x 150 mm or 150 x 225 mm or 150 x 300 mm, in each case with a cellular stucture of 200 cpsi.

4. A combination exhaust gas post treatment /muffler device according to claim 1, wherein three particle separators, each having a circular cylindrical form, are disposed in said muffler for parallel flow therethrough, wherein each of said particle separators has a dimension = diameter x length of 150 x 150 mm with a cellular structure of 200 cpsi.

5. A combination exhaust gas post treatment/muffler device according to claim 2, wherein disposed in said muffler, in addition to said at least one catalytic converter, is a particle separator having a circular cylindrical form and a dimension = diameter x length of either 254 x 150 mm or 220 x 225 mm, in each case with a cellular structure of 200 cpsi, or 220 x 150 with a cellular structure of 160 cpsi.

6. A combination exhaust gas post treatment/muffler device according to claim 1, which includes one preliminary oxidation catalytic converter with at least one particle separator and has the detailed features of the variants listed in Fig. 9, wherein the values for the channel velocity KG and the conversion in all variants results on the basis of a maximum exhaust gas volume flow of 1200 $Nm^3/h$, and a raw particle emission of the exhaust gas in an order of magnitude of approximately 40 mg / KWh with an ESC-test and approximately 50 mg / KWh ETC-test.